J. Indian Assoc. Child Adolesc. Ment. Health 2007; 3(1): 13-15

Brief Report

Suicides in Adolescents: Benefit/Harm Balance of Antidepressants

Ulas Eylem Saz, MD, Mehmet Tayyip Arslan, MD, Ayten Egemen, MD

Address for Correspondence: Ulas E. Saz, Research Fellow, Department of Pediatrics, Baylor College of Medicine, Texas Children's Hospital, Division of Emergency Medicine, 6621 Fannin Street, Houston, TX, 77030. Email: ulassaz@gmail.com

ABSTRACT

Introduction: Depression is an important cause of suicide in adolescents. It has been speculated that antidepressants themselves can increase the risk of suicide. **Method:** Cases of adolescents admitted to the Ege University Pediatric Emergency Department in Turkey due to suicide attempt were assessed. **Results:** Nine of 13 suicide attempts during June 2005 were due to overdose of antidepressants prescribed for major depressive disorder. **Conclusion:** Well-designed studies are needed to elucidate the role of antidepressant drugs in suicide.

Key Words: Suicide, Antidepressant Drugs, Increased Risk, Adolescents.

INTRODUCTION

The prevalence of major depressive disorder in children is approximately 2% and in adolescents around 4%-8%[1]. In childhood, the rate of major depressive disorder is comparable in boys and girls, whereas in adolescence the female-to-male ratio approaches a ratio of 2:1. Suicide is the third leading cause of death in adolescence. A WHO study reported that in the 5-14 years age group the incidence of suicide was 0.4-1.5/100,000, and in the 15-25 years age group the incidence was 4.9-22/100,000[2].

During the last two decades, the use of antidepressants has become increasingly common, even among children and adolescents[3]. There is a concern that selective serotonin reuptake inhibitors (SSRIs) and other antidepressants may increase the risk of suicidal ideation and behavior in children, adolescents, and adults[3,4]. In 2003, Committee on Safety of Medicines in the United Kingdom prohibited the treatment of childhood depression with any SSRIs except fluoxetine[5]. In early 2004, the United States Food and Drug Administration (FDA) asked manufacturers of many antidepressants to make labeling changes to include a warning about a possible increased risk of suicidal ideation or behavior, particularly at the initiation of therapy or at the time of dose change[6].

METHOD

1560 children and adolescents were admitted to the Emergency Department of Ege University Faculty of Medicine in June 2005. We report on the 13 adolescents (0.83%), who were admitted with a suicide attempt. Each case was assessed by the adolescent psychiatry department. The study was approved by the Ege University Human Subjects Ethics Review Board and an informed consent was obtained from all participants/parents.

RESULTS

Eleven of the 13 subjects were female (85%). The mean age of the group was 16.7 (range: 15-18 years). As shown in Table 1, nine of them (70%) had been diagnosed to have a depressive disorder and were taking antidepressants (SSRI alone: 5, SSRIs with quetiapine or alprazolam: 3, tricyclic antidepressant: 1). The mean duration of therapy in the patients taking only SSRIs was 5.8 weeks (SD=6.38, median=3 weeks). For all patients on antidepressants the mean duration of treatment was 24.1 weeks (SD=33.7, median=16 weeks). Patients on

antidepressants had used the prescribed medication for attempting suicide during the first 4-6 weeks of therapy. None of the patients on antidepressants had attempted suicide by using any other method, e.g. jumping from a bridge, taking a poison, etc. Psychosocial difficulties were reported by each of the 9 adolescents with antidepressant overdose.

Table 1: Antidepressant overdose: patient characteristics and previous treatment

Gender	Age	Medication	Duration (weeks)	Given reason
Female	16	Escitalopram	16	Domestic violance
Female	17	Sertraline	8	poor school performance
Female	17	Paroxetine + Alprazolam	16	breaking up with a boyfriend
Female	16	Citalopram	3	household financial problems
Female	15	Fluoxetine	1	domestic violance
Female	17	Fluoxetine + Quetiapine	52	Getting bored from her IDDM
Female	16	Citalopram + Quetiapine	16	Rejected by a boyfriend
Male	16	Imipramin	104	Lost a relative
Female	17	Fluoxetine	1	breaking up with a boyfriend

DISCUSSION

It is difficult to investigate an association between the consumption of antidepressants and the rate of suicide since most people have a very low risk of suicide[7]. There is insufficient safety information from the randomized controlled trials to confirm a definite association between antidepressants and suicidality. However, the fact that 9 out of 13 suicide attempts were related to antidepressant overdose suggests the importance of assessing the harm and benefits associated with antidepressants in the adolescent population. The analysis of suicide and antidepressant prescribing suggest an association between antidepressant therapy and suicidal thoughts and/or behaviors in children, adolescents, and adults[4-6,8,9]. Jick et al. showed that people who had a prescription in the 30 days before they attempted suicide were at higher risk than those who received their prescriptions 30 or more days before[8]. In line with the previous study, the present audit found that patients on SSRIs alone attempted suicide within 1-16 weeks of initiation of treatment (median 3 weeks). While little reliance can be placed on the finding of 3 cases in which additional medications (alprazolam, quetiapine) were associated with attempted suicide after a longer period, it should lead to examination of the role of these medications as moderators of antidepressant-related suicide risk.

In our sample, more girls attempted suicide than boys. Also, none of our patients had ingested a toxic dose, so we believe that our cases fell in the self-harm category. Previous studies also suggest that adolescent girls are more likely than boys to attempt suicide; however, boys are more likely to succeed in this effort[9,10]. Our report is in keeping with previous studies that suggest that adolescent girls usually use pills or make superficial lacerations in their efforts at self-harm.

Our study has several limitations. In the absence of a control group (like patients not receiving antidepressants yet attempting suicide), it is difficult to make an etiological link. We did not systematically assess antidepressant-induced akathisia, which is known to increase risk of suicide. W also did not rate the suicidal intent or the severity of depression. Finally, the short duration of the study period may have biased the results in unspecified ways.

Well-designed studies are needed to elucidate the role of antidepressant drugs in suicide. We also recommend that children and adolescents who are treated with antidepressants should be closely monitored by the clinician and family, particularly during the initial three months of therapy.

REFERENCES

1. Lewinsohn PM, Clarke GN, Seeley JR, Rohde P. Major depression in community adolescents: age at onset, episode duration, and time to recurrence. J Am Acad Child Adolesc Psychiatry 1994; 33:809-818.
2. World Health Organization. Distribution of suicides rates (per 100000) by gender and age, 2000.Geneva:WHO. http://www.who.int/mental_health/prevention/suicide/suicide_rates_chart/en/index.html (Accessed on May 17, 2007).
3. Isacsson G. Suicide prevention-a medical breakthrough? Acta Psychiatr Scand 2000; 102:113-117.
4. Whittington CJ, Kendall T, Fonagy P, Cottrell D, Cotgrove A, Boddington E. Selective serotonin reuptake inhibitors in childhood depression: systematic review of published versus unpublished data. Lancet 2004; 363:1341-1345.
5. Committee on Safety of Medicines. Selective Serotonin Reuptake-Inhibitors Working Group Meeting 21 October 2003. Medicines and Healthcare Products Regulatory Agency, United Kingdom. http://www.mhra.gov.uk/home/idcplg?IdcService=SS_GET_PAGE&nodeId=301. (Accessed on March 26 , 2007).
6. United States Food and Drug Administration. Public Health Advisory. Worsening Depression and Suicidality in Patients Being Treated with Antidepressant Medications. March 22, 2004. Department of Health and Human Services. www.fda.gov/cder/drug/antidepressants/AntidepressanstPHA.htm. (Accessed March 26, 2007).
7. Boris NW, Dalton R. Suicide and attempted Suicide. In: Behrman RE, Kliegman RM, Jenson HB (eds). Nelson's Textbook of Pediatrics, 17th edition, Pennsylvania: WB Saunders, 2003:87.
8. Jick SS, Dean AD, Jick H. Antidepressants and suicide. BMJ 1995; 310:215-218.
9. Hammad TA, Laughren T, Racoosin J. Suicidality in pediatric patients treated with antidepressant drugs. Arch Gen Psychiatry 2006; 63:332-329.
10. Jick H, Kaye JA, Jick SS. Antidepressants and the risk of suicidal behaviors. JAMA 2004; 292:338-343.

Ulas Eylem Saz,[1,2]
Mehmet Tayyip Arslan,[2]
Ayten Egemen,[2]
[1]Department of Pediatrics , Division of Emergency Medicine, Baylor College of Medicine, Texas Children's Hospital, Houston, TX, 77030
[2]Department of Pediatrics , Ege University School of Medicine, Izmir, 35540, Turkey

This data was presented in the 29th Union of Middle Eastern and Mediterranean Pediatric Societies Congress, September 14-17, 2005, Istanbul,Turkey.